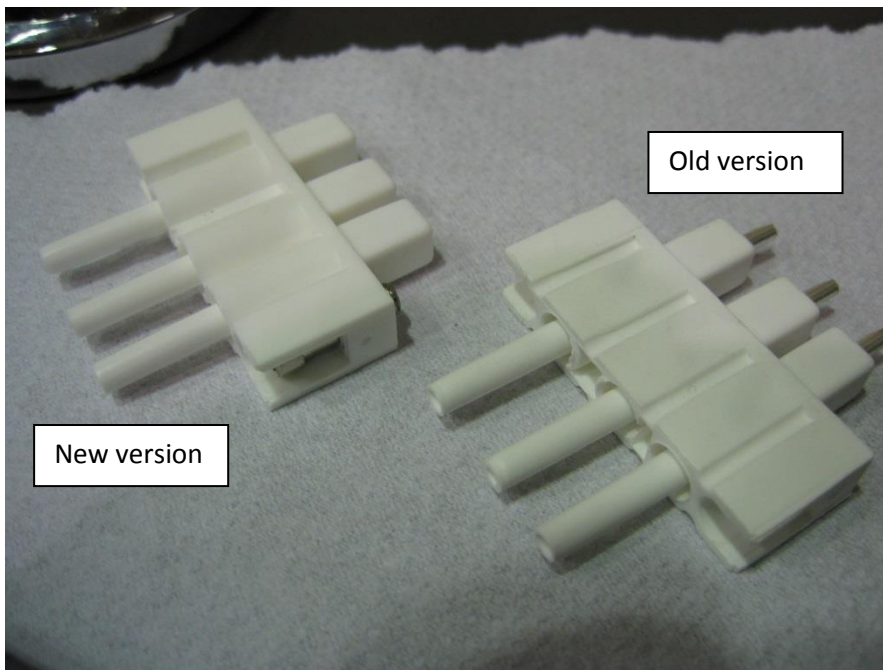
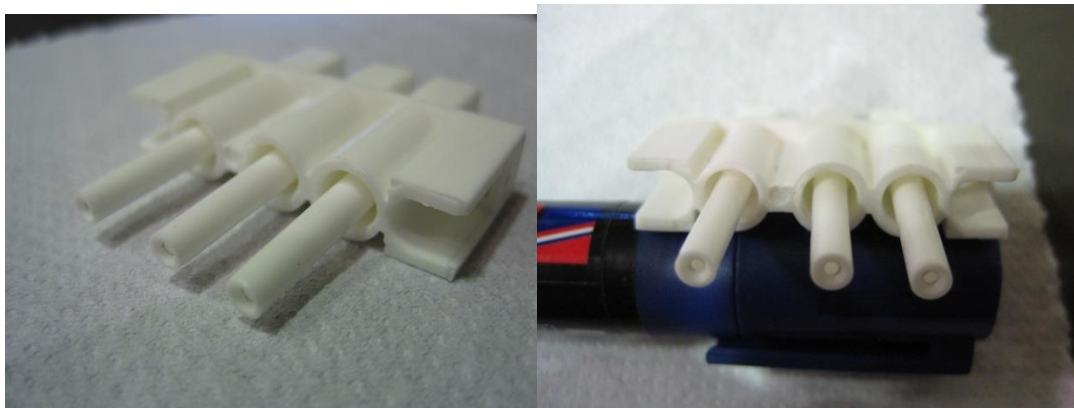


Inspection of new 3 Pole moulding from C.P.E. Milano

The moulding geometry has changed.

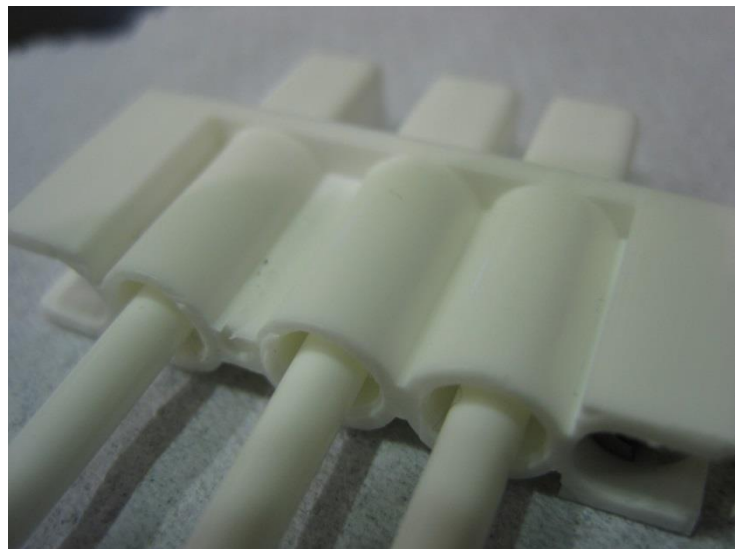
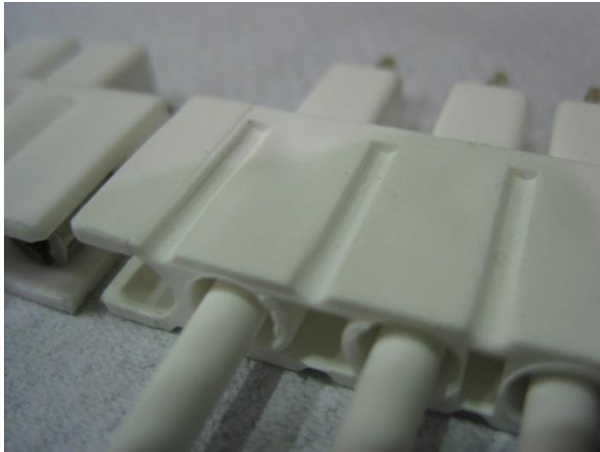


The new version

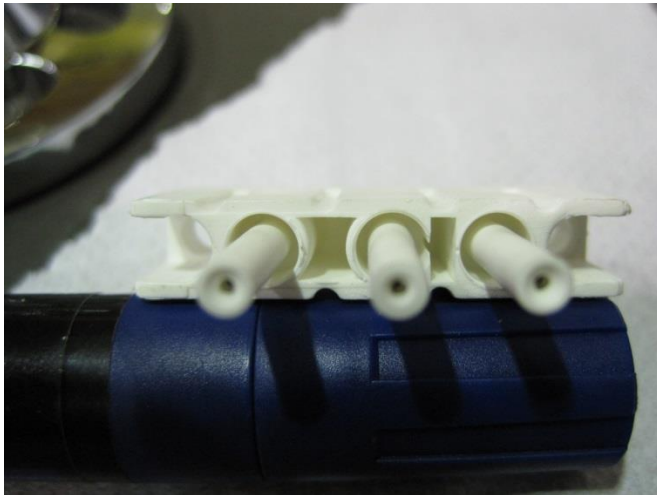


Moulding differences.

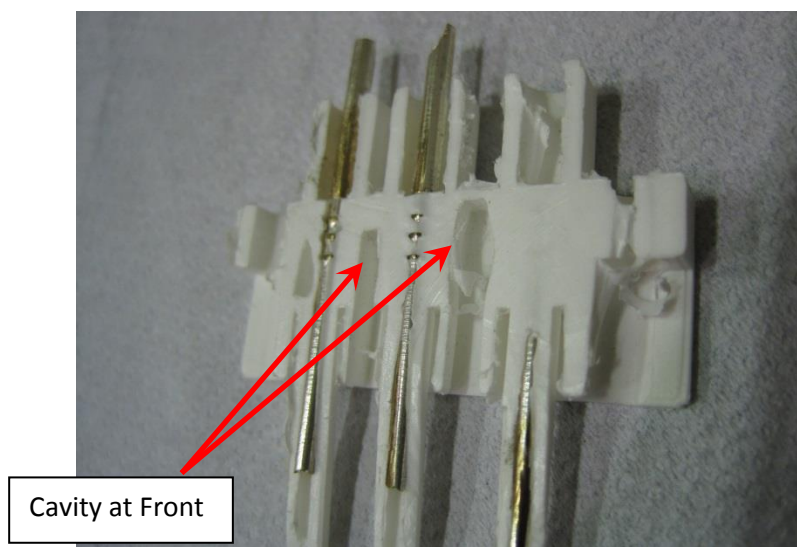
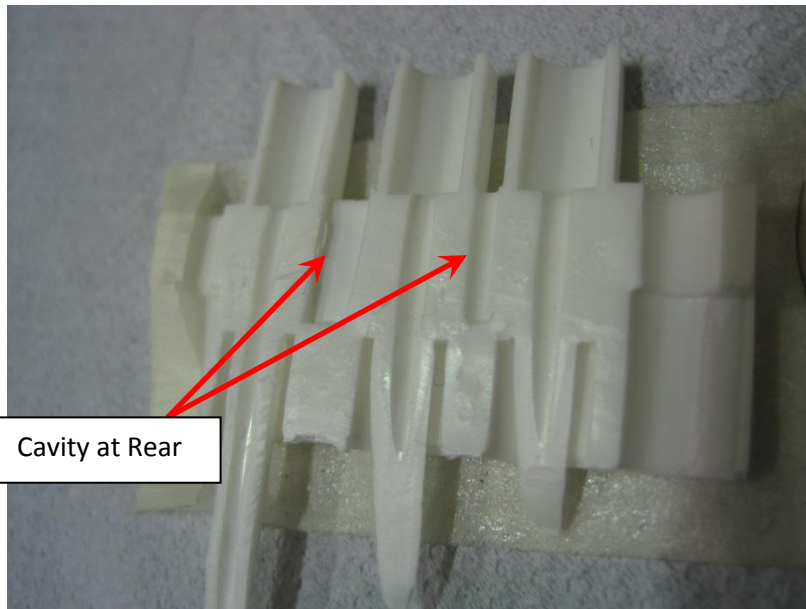
On the left the old version has flat areas over the pin areas where voids have been noticed with a lack of depression. On the right the area around the pin is coaxial with little area/volume for shrinkage or contraction to occur as the thickness of material remaining is small.



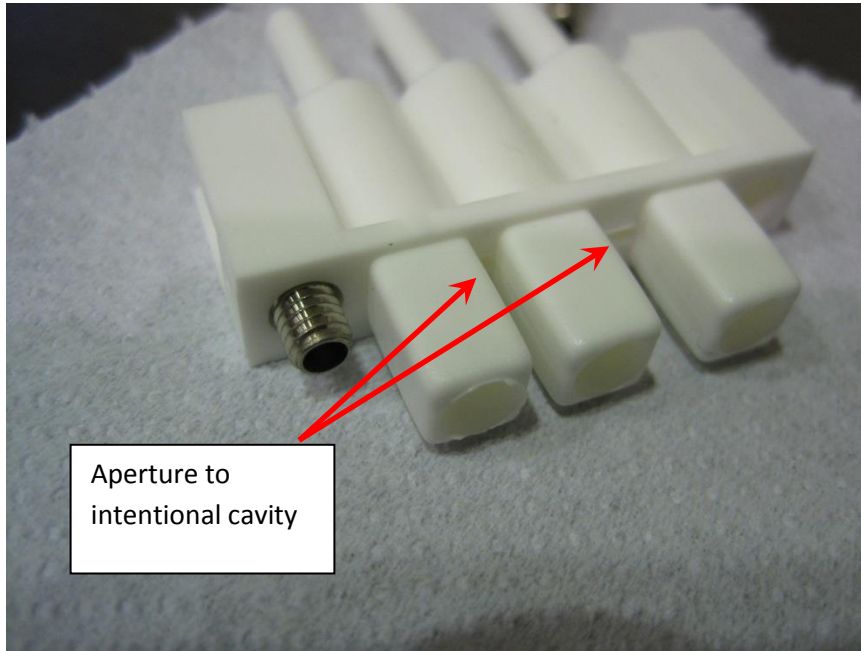
Different views, end on, showing that the intentional cavities between the pins has on the old version has now been removed and put into the “rear” of the connector where the potting will occur.



The connector cut open shows the entry of the cavities between the pins has moved to the rear of the connector.



This then leaves rather small apertures (see below) for the potting liquid to enter and the air to escape. If the air cannot escape cavities will remain. This is in the area, as before, of the barbs on the pins, see later comments. In the new version the possible cavities will be more controlled in size.



Voids due to poor moulding between outer pins and securing pins

The area can appear to present no indications of voids



However of the 3 connectors opened, there are visible voids of smaller size than before.



Another connector with possible void



And nothing.....



The third connector appears clean



Although....



Sharp pin edges

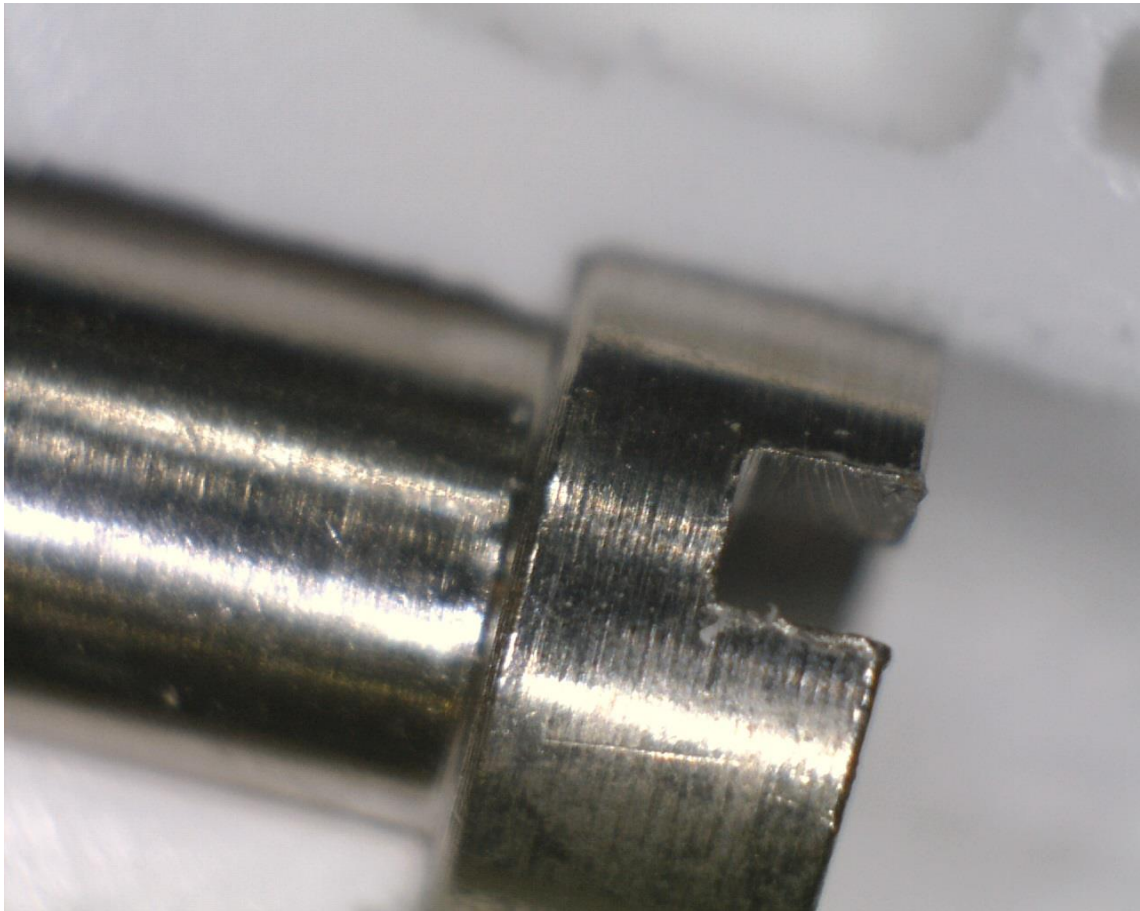
The Napoli technicians pointed out that the barbs, necessary to secure the pins against axial thrust, are sharp edged. These should be rounded to avoid high fields.



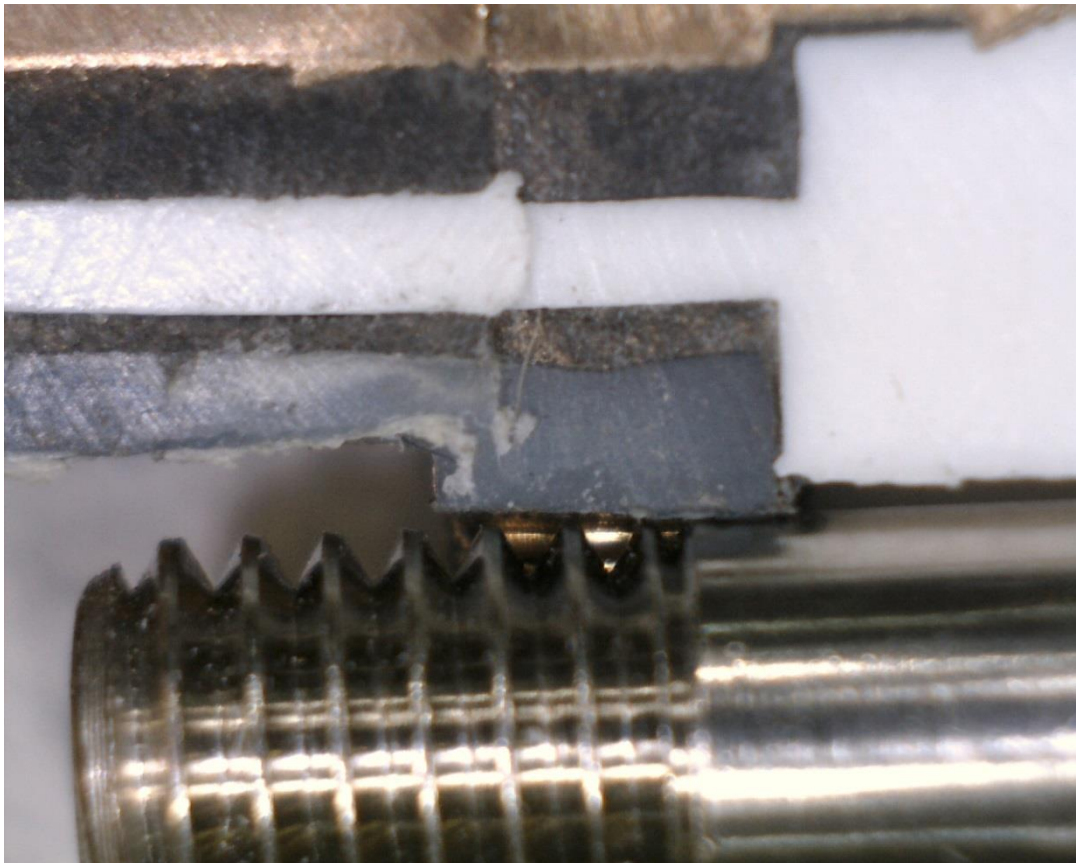
These are in proximity to the voids and the securing pins. The pin itself is not sharp edged BUT the screwdriver slot is not deburred AND has been damaged by the tool (too small ?) used to tighten the pin.



Rough slot edges giving high field.



The screw thread is, in comparison, rather rounded off and is not so close to the sharp pin barbs.



22 March 2013

Ian Crotty

This report and more photos are available here;

<http://rpc-cms-re4-upscope.web.cern.ch/rpc-cms-re4-upscope/RPC/Services/HV/3PoleCPE/Inspection/22March2013/>

